Confluence

A Quarterly Newsletter Exploring the State of Washington's Waters and Shorelands

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Ecology adopts new shoreline master program guidelines

On November 29, Ecology adopted new shoreline master program guidelines *(Chapter 173-26 WAC)*. With his signature, Ecology Director Tom Fitzsimmons concluded a five-year effort to review and update the state rule.

The guidelines provide details on how local governments can achieve the level of protection required by the Shoreline Management Act (SMA).

The new guidelines will limit the amount and types of development allowed adjacent to streams, lakes and marine waters in Washington state.

In the future, new structures or activities that are not "water dependent" will have to occur farther back from the edge of those water bodies, partly to protect the quality and natural functions of the shoreline, but also to protect people and businesses from flooding and erosion.

Natural vegetation along shorelines also will need to be preserved to help prevent erosion and to provide habitat for aquatic life, such as endangered salmon.

Bulkheads, docks and other shoreline structures that harm the natural functions of shorelines will be discouraged. Bulkheads, in particular, are a problem because they deflect wave energy and increase erosion elsewhere. In the future, property owners will have to consider environment-friendly alternatives for stabilizing shorelines.

Fitzsimmons said the revised shoreline guidelines will apply only to new development or re-development. They will not apply to existing homes, businesses or farming practices, nor to shoreline projects that have already been approved for development by cities and counties under their existing shoreline master programs.

"Our shoreline practices do need to change, but we do not expect people to tear down their homes or go out of business," Fitzsimmons said.

"If you already have a house at the water's edge, or if you're growing crops close to a river, you can keep living there and farming there – and I hope you'll do what you can to share that space with nature."

Background

In 1995, the state legislature directed Ecology to review and update the state guidelines every five years. Since then, Ecology involved multiple advisory committees, consulted with lawmakers, and produced several informal and formal drafts for public review and comment.

A 60-day review period on the final draft was held last summer and elicited about 2,000 comments. Ecology made many corrections, clarifications and

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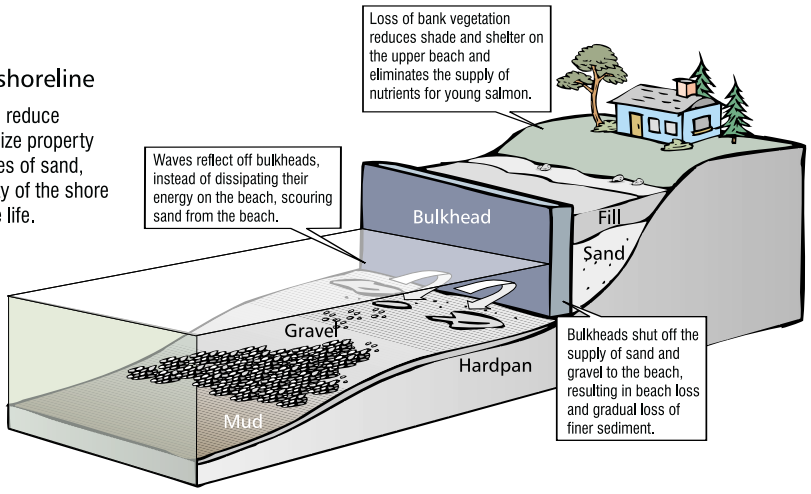
Bulkheaded shoreline

Bulkheads built to reduce erosion and stabilize property can starve beaches of sand, reducing the ability of the shore to support marine life.



Shoreline rule adopted *(continued from page 1)*

refinements in response to those comments. Ecology mailed a *Responsiveness Summary* to everyone who commented on the draft rule.

Two-path approach

A key feature of the final guidelines is a two-path approach that gives cities and counties a choice in how they write and implement their shoreline master programs.

The default "Path A" allows local governments flexibility and creativity in how they meet the standards of the SMA, while the optional "Path B" contains specific measures for protecting shoreline functions.

The National Marine Fisheries Service and the U.S. Fish & Wildlife Service have agreed that any local master program that complies with Path B will automatically get an exception under the Endangered Species Act (ESA).

This will shield cities and counties from federal penalties and citizen lawsuits if an ESA-listed fish is harmed or its habitat disturbed as the result of an activity covered by the exception.

Ecological functions

At the heart of both paths of the proposed rule is a requirement that local officials identify the ecological functions performed by shorelines and protect them based on what the local environment needs.

Path A allows local governments to comply with this requirement through a variety of means. For example, a local government might analyze a stream to determine key stretches where riverbanks absorb floodwaters and prevent flood damage downstream. They could then use buffer requirements or wetland protection provisions to prevent inappropriate development in those areas.

Path B of the rule is more detailed in its requirements for protecting ecological functions. It requires local governments to protect and restore "properly functioning conditions" (or PFC) for ESA-listed fish populations.

The term PFC was coined by federal agencies to describe the level of specific functions that are necessary to recover threatened and endangered species populations. The conditions that species need varies with the type of shoreline.

For example, the conditions salmon need to survive in marine waters may be different than what they need to spawn in streams. Path B explains PFC and describes an analytical process that local governments may use to ensure that PFC is maintained where it exists, and is restored over time where it has been degraded. The Path B approach includes a default vegetative buffer width *(see below)*.

Shoreline vegetation

Both paths in the rule require local governments to protect shoreline plants that keep banks from eroding, shade the water, and create habitat for fish. Path A allows local governments to use a variety of means, such as clearing-and-grading standards or setback-and-buffer standards, to protect vegetation.

The Path B approach sets a default buffer of one site-potential tree height (the maximum height that a tree potentially could grow at a particular site) along rivers where trees naturally grow. The default buffer is 60 feet along rivers where trees don't grow, such as in arid areas of the state.

The rule also sets a buffer of one-half site-potential tree height, or 100 feet (whichever is greater), along lakes and marine shorelines. These standards are based on studies that document the contribution that vegetation makes to shoreline functions.

The buffers, or vegetation conservation areas, are not "no-touch" areas. The guidelines do allow some development within them in specific situations. For example, development would be allowed on an existing legal residential lot where it is not feasible to locate the primary structure outside the buffer, or when ecological functions are not diminished. Removing noxious weeds and limbing trees is also allowed.

Bulkhead provisions

Under the new guidelines, local master programs need to establish stricter measures to slow the spread of bulkheads and other "hard" shoreline armoring.

Scientists have found that these structures degrade fish and wildlife habitat and can accelerate erosion on neighboring properties.

Both paths of the rule require that applicants demonstrate a need for new bulkheads and other shoreline armoring before getting approval. The rule also

Channel Migration Zones

Both paths of the new rule add new requirements for local governments to manage river "channel migration zones," or CMZs.

The CMZ is the area where rivers naturally meander over time. They are not only hazardous areas to build, but fish and wildlife also depend on the habitat created when a river is allowed to migrate.

Borrowing from recently adopted forestry rules, the guidelines define the CMZ as the area along rivers where there has been evidence of channel movement over the past 100 years, excluding urban areas that have been separated from the active channel by dikes.

The rule prohibits *new* structural flood-control measures and restricts most new developments within that portion of the CMZ that lies within shoreline jurisdiction. The guidelines include specific exceptions to these restrictions, such as restoration projects, forest practices, and utilities and transportation where no alternatives exist.

requires that environment-friendly erosion control methods be used as a first priority.

The rule clarifies that repairing and maintaining existing bulkheads is allowed under either path. However, both paths do set new requirements for replacing bulkheads. Path B requires a geotechnical report showing the bulkhead needs to be replaced before getting approval.

Docks and piers

Both paths require that new docks and piers be built to reduce harm to the shoreline environment. Also, piers and docks must be restricted to the minimum size needed for the proposed use, and property owners are encouraged to share piers and docks among several neighbors to reduce the spread of individual structures.

Governor seeks time, money

Local governments are very concerned that the Legislature has not appropriated new funds to help them update their local master programs to be consistent with the new state guidelines. The SMA currently requires local governments to update their local master programs within the next two years.

Governor Locke's proposed budget includes a request for $6 million for local governments to begin updating master programs. Another $12 million will be needed in future bienniums. The Governor is also proposing legislation to extend the timeline for compliance.

For more information

Ecology has prepared a "responsiveness summary" that addresses all comments received during a 60-day public-review period held during 2000. Copies of the 132-page summary and other documents are available on Ecology's Web site at www.ecy.wa.gov/programs/sea/SMA/guidelines/newguid.htm.

For paper copies of the rule or other documents, contact Ecology:

- E-mail shorerule@ecy.wa.gov
- Call 888-211-3641 and leave a message
- Write: Shoreline Guidelines, Washington Department of Ecology, PO Box 47690, Olympia, WA 98504-7690.

Coalition appeals new rule

A coalition of business groups, agricultural organizations, local governments and individuals is asking the Shorelines Hearings Board (SHB) to invalidate Ecology's new shoreline rule.

In an appeal filed December 29, 2000, the petitioners claim Ecology is unlawfully using the SMA rules as a means to enforce federal regulatory standards of the ESA.

The group also complains that Ecology failed to follow proper rule-making procedures, exceeded statutory authority in a number of areas, established standards that conflict with the Growth Management Act, and created an unfunded mandate on local governments.

A preliminary hearing date on *Association of Washington Business v. Ecology* is set for May 4, 2001.

Requirements for restoration linked to new development

One of the most widely misunderstood concepts in the shoreline rule is "restoration." Both Path A and Path B establish the objective of restoring ecological functions on a comprehensive basis (e.g., within a river basin) over time as new development occurs.

Restoration is defined as "the significant upgrading of shoreline ecological functions through measures such as revegetation, removal of intrusive shoreline structures and removal of toxic materials."

Restoration does not necessarily mean returning an area to pristine conditions. In both paths, restoration requirements do not apply retroactively to existing uses.

Most restoration requirements arising from the guidelines will result from permit conditions for certain types of development on previously degrades sites. The guidelines do not require that all projects include ecological restoration.

Local governments pursuing Path B must develop a "restoration strategy" for integrating different restoration approaches (inventory of shoreline areas ripe for restoration, limiting factors analysis, etc.) to eventually attain PFC.

Local governments can meet the restoration requirements of the new rule by ensuring that new projects contribute to improvements in the overall shoreline ecosystem. For example, the stabilization project above included placing large woody debris that helped solve the landowner's erosion problem while improving habitat.

Court decisions affect water boards, metering

The Thurston County Superior Court in early December 2000 issued two important court rulings that change the way Ecology interprets water supply law.

Water conservancy boards

On December 8, Judge Daniel Berschauer clarified a September 2000 court decision regarding the authority granted to **water conservancy boards** in a rule Ecology adopted in 1999. The judge found that Ecology's rule went beyond the scope of the state law authorizing water conservancy boards.

The 1997 law allows county governments to create conservancy boards to process applications to modify existing water rights. Under the law, Ecology approves the establishment of the local boards, trains board members in state water-right laws and rules and hydrologic principles, provides them technical assistance, and reviews and makes final decisions on water-right change decisions made by the boards.

In November 1999, Ecology adopted an administrative rule to define how to set up and operate the boards. A basic assumption of the rule was that conservancy boards could process the same kinds of water-right changes and transfers that Ecology is authorized to process.

In January 2000, the Center for Environmental Law and Policy and the Washington Environmental Council sued Ecology, claiming the rule gave boards more authority than the law allowed. In September 2000, Judge Berschauer verified that conservancy boards do have greater authority to modify existing water rights than the environmental groups claimed, but he also ruled that the boards' scope of authority is less than Ecology believed.

In the December ruling, the judge expanded that ruling, finding that conservancy boards do not have authority to make changes to water rights that involve the purpose of how the water will be used (e.g., changing the use from agriculture to water for drinking, bathing and other more-domestic uses).

The judge ruled that water conservancy boards may make decisions only on water rights involving changes to the point where water is withdrawn or diverted and the place where water is put to use. He also ruled that a water right does not need to be sold in order for a conservancy board to process a change to an existing right.

Keith Phillips, former manager of Ecology's water resource program, expressed disappointment that the judge took such a narrow reading of the conservancy board law.

"We believed that the legislature intended for local boards to have the same authority as Ecology when it comes to processing changes to water rights," said Phillips.

In early January, Ecology filed a petition for direct review of the decision by the Washington Supreme Court.

"We believe that conservancy boards are helping us achieve our goal of getting water to where and when it is most needed for farmers, citizens, fish or other economic and environmental uses, said Phillips. "These boards are a step toward breaking the gridlock, which has gripped water-right permit processing in our state for more than a decade."

Ecology has approved the formation of boards in 18 of Washington's 39 counties. To date, conservancy boards have made approximately 27 decisions. Ecology has reviewed 16 of those local decisions, twelve of which were approved and four which were denied. Out of the twelve approved applications, four involved changes to how the water would be used.

For more information about conservancy boards, contact Peggy Clifford at (360) 407-7262, e-mail pcli461@ecy.wa.gov.

Water metering lawsuit

The other decision out of Thurston County Superior Court in December involved metering requirements for existing surface and groundwater rights that could affect up to 114,000 water-right claims, permits, and certificates (see "Introduction to metering," below).

Speaking from the bench, Judge Richard Hicks ruled that Ecology must make metering its top enforcement priority in areas where a delay in implementing metering would cause a further decline in fish stocks.

Specifically, the judge found that a lack of metering does contribute to the decline of salmon and that further delay in metering in 16 watersheds (as identified in the State Salmon and Steelhead Recovery

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Introduction to water metering

Metering is the placement of a device that measures and keeps track of the amount of water being diverted or withdrawn at a given moment of time and annually.

Meters are located at or near the place where water is withdrawn for use. The data recorded are useful in determining how much water is actually being diverted or withdrawn. In some areas the information can be used to direct water users to stop or cut back on water use if the user is exceeding the right.

Metering information should also be helpful for watershed management.

Under 1993 amendments to state water law, metering is required for all new water right permits for withdrawing water from lakes, rivers and marine waters.

The law also states that metering can be made a requirement for the 230,000 existing water rights. Of those existing water rights the law requires metering for those that are surface water diversions greater than 1 cubic foot per second (646,317 gallons per day) and surface and ground water from sources that support fish stocks that have been classified as critical or depressed by the Washington Department of Fish and Wildlife.

Ecology estimates there are about 114,000 rights and claims that meet these criteria.

Meter used to measure water flow.

Court decisions *(continued from page 4)*

Strategy) would cause a further decline in fish runs, so metering must be made a priority in those areas. The judge is expected to publish a final written order soon.

The judge also directed Ecology to provide him with a plan on how it will bring its water compliance program into line with the metering law. The plan is due to the judge by March 31, 2001.

Out of the 16 watersheds where metering is determined to be the most effective compliance tool available, Ecology must devote its full efforts to metering.

Where metering is determined to not be the most-effective compliance tool for restoring fish flows in any of the 16 basins, Ecology may also use other tools but the majority of its compliance staff must be focused on metering.

Judge Hicks criticized the state legislature for "micromanaging" Ecology's compliance priorities in the metering law that elected officials passed in 1993. He said that Ecology is more qualified than the legislature to determine its compliance priorities. However, because the metering law calls for metering to be Ecology's first priority if the lack of metering contributes to declines in salmon runs, he ruled that Ecology must devote its resources substantially to metering.

According to Phillips, the court's requirement that Ecology make metering a top priority may actually be less beneficial to improving water flows and fish restoration than other compliance tools.

"Metering is an important tool for managing water resources, but it competes with other activities in an agency that continues to be under-funded for water management," said Phillips.

"We have many mandates to manage the state's water supplies," he said. "The legislature never provided funding for the 1993 metering law, and other Ecology activities should not be penalized because of that."

Phillips said redirecting staff will prevent Ecology from issuing penalties to people who use water illegally. Ecology may appeal the court's decision and may ask the legislature to review the implications the ruling has on the agency's budget.

Ecology considers "in-stream flow" rule for Skagit watershed

Ecology is considering adopting a rule to ensure there is enough water in the Skagit River system to protect fish and sustain other uses, regardless of season or rainfall.

The proposed rule establishes minimum stream flows for the entire Skagit River basin, with the exception of the Samish River sub-basin, and determines a finite amount of water that can be further appropriated from the Skagit River. These protective measures are needed to maintain the long-term health of the Skagit estuary and the entire watershed. Water rights already in place are not affected, but all pending and subsequent water-right applications will be conditioned with the flows in the proposed rule and will be subject to how much water is available.

"The Skagit River system is an important basin with seemingly abundant water and fish," said Rod Sakrison, Ecology's lead for watershed planning in the Skagit basin. "But the recent listing of Puget Sound Chinook salmon as threatened, coupled with population growth in the area, compels us to make sure we keep enough water in the basin."

The recommendation to adopt an in-stream flow rule was put forth by the Skagit River In-Stream Flow Committee, a group of representatives from the local utility district and city and tribal governments formed to study the habitat, hydrologic and flow needs of salmon in the Skagit.

Ecology held a workshop in October to give the public an opportunity to learn and ask questions about the proposed rule. Ecology received 18 comments on the rule during a public comment period.

Some of the main comments concerned Ecology's process for setting stream flows, difficulty in securing future groundwater rights, and the high frequency that shortfalls will occur in late summer and early fall, that will interrupt new diversions and withdrawals.

Ecology expects to make a decision on the final rule by February 26, 2001.

For more information

For more information, visit www.ecy.wa.gov/laws-rules/activity/wac173503.html or contact Rod Sakrison at (425) 649-4447, e-mail rsak461@ecy.wa.gov.

Ecology to develop programmatic EIS for stream flows

Ecology is proposing to develop a statewide programmatic environmental impact statement (P-EIS) to help local watershed groups set minimum stream flows.

The proposed P-EIS would provide a broad level of information that could be used for all watersheds in Washington State. Planning groups recommending stream-flow levels could save time and money by adopting the P-EIS by reference and providing supplemental watershed-specific information.

The proposed P-EIS would:

- Provide a comprehensive environmental evaluation of various approaches for identifying flow needs *(i.e., how much water fish need)* and clarifying alternatives.
- Present a broad array of flow assessment methods.
- Discuss environmental tradeoffs and the potential pros and cons of alternative approaches.

Ecology is holding a public comment period on the scope of issues covered by the P-EIS from January 22 to February 20, 2001. The purpose of scoping is to ensure that environmental factors are analyzed in sufficient depth and breadth.

For more information, visit www.ecy.wa.gov/programs/wr/instream-flows/ or call Doug Rushton at (360) 407-6513, or e-mail drus461@ecy.wa.gov.

Ecology proposes changes to rule for administering water rights

Ecology is preparing changes to a regulation *(Chapter 173-151 WAC)* that directs how the department administers water rights.

Water rights are the mechanism to allow people, cities, farmers, parks and industries to legally use water. For example, cities and housing developments have water rights to provide water to homes and parks, farmers have water rights to irrigate crops, and industries have water rights to run manufacturing facilities.

Since 1917, Washington state has issued water-right permits that allow people to install pipes or wells to withdraw water from lakes, streams and underground aquifers. Once the water has been put to use in accordance with the permit, Ecology issues water-right certificates.

Today, citizens and organizations hold approximately 52,000 water-right permits and certificates. In addition, approximately 5,300 communities and businesses have applied for new permits.

Over time, the way water rights are issued and managed has changed. According to Keith Phillips, who managed Ecology's water-resources program until recently, the department wants to revise the rules for administering and managing water right permits.

"We want a rule that offers consistency, clarity and predictability in how we administer water rights," said Phillips. "Communities, businesses and others who supply water to people, businesses and farms in our state deserve predictability."

A goal of the regulation is to provide guidance to Ecology staff, water-right permit holders and applicants on how the agency administers water rights. The proposed rule is a first step toward replacing the current rule that is outdated and incomplete, said Phillips.

"The current rule does not reflect 40 years of legislation and case law," said Phillips. "We need to catch up with the times."

Ecology is considering proposals that would apply to: requests to extend the development of a permit; how water rights are evaluated; what is necessary to show water has been legally put to use; and how to correct past administrative errors. Ecology held public workshops around the state in January to seek public comments.

For more information

For more information, visit Ecology's Web site at www.ecy.wa.gov/laws-rules/activity/wac173151.htm, or call Steve Hirschey at (425) 649-7066, e-mail shir461@ecy.wa.gov.

Ecology buys water to help fish survive

The state's first effort to purchase water to restore stream flows is showing promise as part of an effort to help recover dwindling populations of salmon.

Last fall, Ecology signed transactions totaling $420,000 to return 1,730 gallons of water per minute to the Methow and Walla Walla rivers. The money is part of a $1 million appropriation approved by the legislature and Gov. Gary Locke in 1999 to purchase and lease water rights to put water back into streams where water flows are too low for fish runs.

"Buying water for fish is a key part of managing water in the 21st century," said Ecology director Tom Fitzsimmons. "These purchases and leases prove that water has a price tag attached to it, even for fish.

"By placing a dollar value on water, we can quickly break through much of the gridlock that is stifling the movement of water in our state. All we need is a willing buyer and a willing seller," Fitzsimmons said.

The largest purchase of water was in the Walla Walla basin. Ecology bought nearly 1,540 gallons of water per minute from a Walla Walla farmer for $405,000. The water is currently being used to irrigate 225 acres of wheat and alfalfa seed crop. The irrigation water will now stay in the Walla Walla River to provide more water for fish.

The water purchase in the Walla Walla basin also includes a conservation easement that will permanently protect the streamside habitat from development along nearly three miles of the river. This protection should improve water quality, make the soil and stream bank more stable, increase water storage and conservation opportunities, and improve the habitat for fish and wildlife.

Ecology and the Washington Water Trust, a nonprofit conservation group, recently leased approximately 190 gallons of water per minute for $5,000 a year. The three-year lease involves Methow River water that has been used by an irrigator for hay and animal pastures.

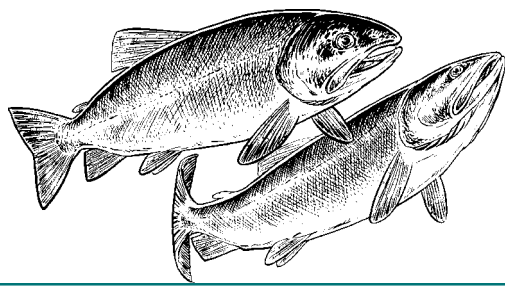
In addition, the state Department of Fish and Wildlife (WDFW) recently worked with Ecology and the Washington Water Trust to lease two separate water rights or uses in the Methow area. One lease involves putting water back into Beaver Creek, and the other lease involves putting water back into the Methow River.

Under the leases, WDFW will put the water back in the stream at no charge. The agency had been using the water to irrigate hay crops.

With about half of the $1 million appropriation remaining, Ecology hopes to make additional water purchases by next July in areas where stream flows are low and fish need more water. In addition, Fitzsimmons said he is optimistic that the 2001 Legislature will provide funding to buy more water for fish.

"We are very interested in making other purchases with this forward-looking program," said Fitzsimmons. "It's great when people donate water back to streams for fish, but that's not financially feasible for everyone. Where we have a crucial need to put water back in a stream, it's appropriate for the state to compensate willing sellers."

People interested in selling, leasing or donating water rights can call Peggy Clifford at (360) 407-7262 or e-mail pcli461@ecy.wa.gov.



Ecology proposes changes to state water quality standards

Ecology is seeking comments on proposed changes to the state's water quality standards. Ecology has spent nearly a decade working with people around the state to identify potential changes to the standards, many of which have not been changed since about 1980.

The water quality standards place limits on how much pollution is allowed in a waterway, and they are based on the federal Clean Water Act and regulations from the U.S. Environmental Protection Agency.

According to Megan White, Ecology's water-quality program manager, the goal is to do a better job of protecting streams, lakes and marine waters from pollution, high temperatures and overall degradation or harm.

"We have some significant changes proposed, and we want to hear further from citizens about how to improve the health of our state's waters," said White.

Three of the most significant proposals include:

- changes to the state's criteria for temperature, dissolved oxygen and bacteria;
- revising the classification system for waterways so that it is better aligned with the actual uses in a particular lake or stream; and
- establishing procedures for determining when degradation or harm would be allowed or prohibited to waterways determined to be of high quality.

In recent years, scientists have learned more about identifying what is needed to make a river or lake healthy for fish and other aquatic life. In addition, technology has advanced about how to measure both the health and harm in those waterways.

White said the standards are important, because Ecology makes decisions about issuing wastewater discharge permits to industries and local wastewater treatment plants, taking enforcement actions and doing water cleanup work based on whether a particular lake, river or stream is meeting the water quality standards.

Ecology held public workshops in January to get ideas to help further refine the proposed changes to the regulations.

Written comments may be submitted by Feb. 16. Ecology will review all comments and expects to issue a formal proposal for new standards sometime this spring.

For more information, or for a draft proposal, visit www.ecy.wa.gov/programs/wq/swqa/index.html or contact Ann Kahler, (360) 407-6404, email akah461@ecy.wa.gov.

AFW to issue draft guidelines for irrigation-district management plans

The "Agriculture, Fish and Water" (AFW) Irrigation District process is preparing to release draft guidelines for irrigation districts on how to prepare comprehensive management plans. The plans would focus on enhancing and protecting habitat for endangered fish and wildlife while also addressing water quality needs through a voluntary process.

The document, entitled *Guidelines for Preparation of Comprehensive Irrigation District Management Plans,* takes a step-by-step guidance approach to conservation planning for irrigation districts that will meet the requirements of the Endangered Species Act and the Clean Water Act. The process described in the document encourages early cooperation among irrigation districts and agencies to assess district operations and set a course for addressing any necessary changes.

The draft should be ready for distribution in early February, and will be followed by an informal 30-day public-comment period beginning February 12, 2001.

The AFW irrigation-district committee members are hosting three public meetings on the draft document in Olympia, Wenatchee and the Tri-Cities in early March. Additional meetings will be held as needed or requested.

Next steps include identifying irrigation districts that would like to be involved in a pilot project using the guidance document and finding the necessary funding for the pilots.

Field office technical guide

The irrigation district project is one of two main projects under way through AFW. The other is an effort to update farm conservation practice standards found in the "Field Office Technical Guide" developed by the federal Natural Resources Conservation Service (formerly the Soil Conservation Service).

The AFW group has been reviewing practices that pertain to Northwest Washington. The result will be a process to identify what physical and biological habitat functions are present on any given stretch of stream, and then identify and customize what conservation practices are needed on a given farm to solve the habitat problems through the development of a farm plan. A draft document is expected in summer 2001.

For more information, visit the Washington Conservation Commission's Web site at www.conserver.org/afw/ or contact Paula Smith at (360) 407-6209, e-mail psmi461@ecy.wa.gov.

Gravity-fed irrigation system used in some parts of Eastern Washington. Farmers are converting to more-efficient systems.

How's the health of Washington's waters?

Every two years, Ecology is required by the federal Clean Water Act to assess the health of Washington's waters. The findings are reported to the Environmental Protection Agency (EPA), then presented to Congress along with information from all 50 states.

Ecology's findings have been recently published in the *2000 Washington State Water Quality Assessment Report*. Pollution problems were found in 54 percent of all rivers and streams, 79 percent of the state's marine waters, and 37 percent of lakes.

"The data we've collected show that many sources of pollution in our state are very preventable, and it will help guide our decisions about permits, cleanup, funding and other issues," said Megan White, Ecology's water quality manager. "The information also helps local governments, industries and citizens identify what they need to do to prevent and clean up water pollution."

What's the leading cause of water pollution? Runoff from activities that citizens do every day.

"This means that citizens can make a real difference in the health of our rivers and lakes by adopting water-healthy lifestyles," White said. Reducing fertilizer use, fixing oil leaks, properly maintaining on-site septic systems, and keeping cattle away from streams are some of the ways that citizens can make a difference.

In preparing the assessment report, scientists at Ecology used monitoring information from state and federal sources. Although the sampling information covered only 5 percent of rivers and streams, 40 percent of lakes, and 6 percent of estuaries, it was representative of nearly all the waters in Washington.

Ecology assessed the waters based on how well they supported uses such as fish and other aquatic life, swimming, boating, and aesthetic enjoyment.

Rivers and streams

The majority of rivers and streams are healthy, although 54 percent have at least one pollution problem. Agricultural activities such as livestock operations, urban development and forestry practices in or near streams are the leading cause of pollution. These activities increase water temperatures, unbalance pH levels (measure of acid in water) and put fecal coliform bacteria into the water. The result is that fish suffer from living in warm and polluted water, and people can become sick by ingesting bacteria when they swim in the water or eat contaminated shellfish.

Lakes

The majority of lakes are healthy. Pollution from agricultural activities and urban runoff are the greatest concern. Excessive nutrients from agricultural and gardening fertilizers, animal waste and failing septic systems cause algae to grow. Algae can eventually kill or choke a lake and make it a smelly, unattractive, and dangerous place for people to enjoy.

Ground water

Over all, the quality of Washington's ground water is good. Most of the state's residents drink ground water – 65 percent of the people in Western Washington and 85 percent in Eastern Washington.

Only 1.5 percent of the state's public water systems has ground water contaminated with nitrates from agricultural and gardening fertilizers, animal manure and failing septic systems.

Individual, shallower wells are likely to have more contamination. Drinking water contaminated with nitrates can sicken infants who are fed formula or other beverages made with polluted water.

For more information, visit www.ecy.wa.gov under "Water Quality."

Managing aquatic plants with IPM

Ecology has been talking with people and gathering feedback about the best way to manage nuisance plants in Washington lakes. Their findings will influence the draft update of an Aquatic Plant Management Supplemental Environmental Impact Statement (SEIS). A final draft is expected to be out February 2000.

The draft SEIS is a technical document Ecology permit managers use to determine what methods should be used to control nuisance aquatic weeds and algae while causing the least amount of harm to fish, wildlife and people.

The focus of the SEIS update has been on requiring more integrated pest management (IPM) planning by aquatic plant managers as well as assessing more aquatic herbicides. 2,4-D formulations and endothall formulations of Aquathol and Hydrothol 191 are currently being evaluated through risk assessment for use in IPM weed-control operations.

Ecology is proposing that lake associations, cities, counties, and others who routinely use herbicides use IPM to control aquatic plants. Ecology is proposing that people apply for three- to five-year permits to manage aquatic plants by submitting an IPM plan along with their application. Control methods may include the use of herbicides, biological methods, manual and mechanical methods versus continuously using annual permits to apply herbicides without IPM plans.

Ecology is recommending that, under certain permitted conditions, licensed applicators be allowed to use 2,4-D. Currently, only cities and counties can use 2,4-D. Ecology is also recommending the continued use of Aquathol, but with changes to the current swimming restrictions to more closely reflect the limitations on the product's label. The agency is considering whether to allow the use of Hydrothol 191 for treating certain algae.

For more information, contact Kathleen Emmett at 360-407-6478.

Streamlining and improving water-quality fund programs

In December 2000, Ecology adopted two new rules about how the agency makes decisions for projects and activities to improve water quality.

"We needed a more efficient, predictable process to fund water quality projects," said Megan White, Ecology's water-quality program manager.

Since the 1970s, Ecology has administered grants and loans and provided technical assistance to help communities solve water pollution problems in lakes, rivers, estuaries, and ground water.

Requests for funds usually exceed the amount of money available each year. One of the main problems for local governments and other applicants has been the need to apply for each fund source separately.

Over the last four years, Ecology took steps to integrate, streamline, and coordinate the three main funds: the *Centennial Clean Water Fund*, the *State Water Pollution Control Revolving Fund*, and the *Section 319 Nonpoint Source Fund.*

This fall Ecology conducted several public hearings to gather public comments on proposed rules to further integrate the fund programs.

The rules were also intended to help clarify Ecology's evaluation of project proposals, steer construction grants to low-income areas, and ensure that funds are spent on time.

The two rules were adopted December 8, 2000, and are being used to guide the Fiscal Year 2002 fund cycle. The fund cycle is open for application in January and February 2000.

"The rules should help local governments, Indian tribes, and citizen groups be more successful at getting funds," said White. "With the help of an advisory council and advice from other citizens, we believe we've designed rules that establish a playing field that is understood and fair for all participants."

In 2000, Ecology offered local communities and other applicants about $94 million in loans and grants, funding more than 80 projects aimed at improving the quality of water in Washington.

For more information, visit www.ecy.wa.gov/programs/wq/links/funding.html, or contact Ecology's Tim Hilliard at 360-407-6429, e-mail thil461@ecy.wa.gov.

Spokane's East Valley interceptor project.

Washington and Forest Service agree to improve water quality

Two signatures may make all the difference in the long-term health of Washington watersheds.

The U.S. Forest Service (USFS) and Ecology signed a landmark agreement on Nov. 21, 2000, to improve water quality by repairing, maintaining or closing roads on national forests.

The agreement is patterned on the "forests and fish" legislation for state and private forests that Gov. Gary Locke signed in 1999. The new pact will ensure proper management of roads across multiple ownerships and builds on the strengths of the Northwest Forest Plan and Forest Service national road-management plan.

"The agreement brings the federal government along with private and state forests, and it represents another big step forward in our efforts to improve water quality and important salmon-spawning habitat," said Locke.

Most of Washington's waters flow from the tops of mountains and hillsides and through national forests. When roads fail or wash out, water quality problems cascade throughout the watershed. Dirt, rocks and mud flow into streams where they cover up salmon-spawning areas, cause floods and increase water temperature, which makes rivers unhealthy for fish.

The USFS and Ecology developed the agreement during the past year. The USFS will develop road management plans for all federal forest roads within five years and fully implement those plans within 15 years, so that roads are not contributing to water quality problems.

The agreement is different from the Forest Service's roadless-area conservation plan, which looks at areas without roads. The agreement focuses on ensuring that existing roads stay in good repair.

"Forest roads need to be repaired and maintained just as much as our roads and highways do. If they deteriorate, they pose not only a safety risk, but also a threat to our environment and water quality," said Ecology Director Tom Fitzsimmons.

The USFS will work on high-risk, high-priority watersheds throughout the state first.

Nationally, the Forest Service faces an $8.4 billion backlog in road maintenance and reconstruction. In the Olympic National Forest alone, road maintenance and reconstruction needs total $50 million.

Within the next 15 years, the agreement directs crews to stabilize all national forest roads in Washington state to keep pollution out of the water.

For more information, visit Ecology's Web site at www.ecy.wa.gov/biblio/0010048.html.

Road projects

During the next year, projects will occur in the following areas:

- Remove and stabilize fill on the 2860 road in the Olympic National Forest;
- Close roads in nearly 50 miles on the Gifford Pinchot National Forest;
- Reconstruct and upgrade drainages in 35.5 miles of the Mount Baker-Snoqualmie National Forest;
- Control soil erosion and close roads on the Upper Canyon Road in the Wenatchee National Forest;
- Close roads on Cub Creek in the Okanogan National Forest;
- Close 29 miles of roads in the Lone Deer Creek watershed of the Colville National Forest; and
- Close 18 miles of road near Kelly Camp on the Umatilla National Forest.

Ecology advances efforts to clean polluted waterways

Ecology recently identified water cleanup plans to be developed in eight additional areas of the state. The selections were based on the severity of the pollution, the potential for harm to human and aquatic health, and the barrier posed to swimming, boating, fish habitat and other uses.

The focus of Ecology's efforts will be to determine the degree of the pollution problem, where it is coming from, and how to most effectively prevent, reduce or stop the contamination.

"In most of these waterways, pollution is coming from a variety of sources that are not easily identifiable, including various industries or municipal treatment plants," said Megan White, manager for Ecology's water-quality program. "We'll need a great deal of involvement from citizens to locate the sources and get the pollution stopped."

The federal Clean Water Act requires states to develop "total maximum daily loads" (TMDLs, or water cleanup plans) for polluted waters. The plans determine the amount of pollution a water body can receive and still remain healthy. They are developed with extensive public review, and include strategies or methods for making the water cleaner. Currently, Ecology is working on approximately 103 water cleanup plans for 32 major water bodies.

For more information, visit www.ecy.wa.gov/programs/wq/tmdl/ or call Ron McBride at (360) 407-6469.

County	Water Body	Pollution Problems
Clallam	Dungeness River/Bay Expansion	Fecal coliform bacteria
Grant	Moses Lake, Rocky Ford Cr., Upper Crab Creek	Phosphorus
Okanogan	Okanogan River	PCB (toxic chemicals) and DDT (insecticide)
Okanogan	Similkameen River	Arsenic
Pierce	South Prairie Creek	Fecal coliform bacteria, temperature
Pierce	Meeker Ditch and Clark's Creek	Fecal coliform bacteria, pH, dissolved oxygen and temperature
Skagit	Carpenter Creek, Fisher Creek, Fisher Slough, Skagit Basin	Fecal coliform bacteria and temperature
Yakima	Granger Drain	Fecal coliform bacteria

Ecology, DNR sign strategy for cleaning Bellingham Bay

An agreement to implement a comprehensive strategy for cleanup and habitat restoration of Bellingham Bay was signed January 5 by Ecology Director Tom Fitzsimmons and former Public Lands Commissioner Jennifer M. Belcher.

The strategy considers sediment cleanup, control of pollution sources, habitat restoration and shoreline/aquatic land use from a bay-wide perspective

Newly elected Lands Commissioner Doug Sutherland has indicated his support for the agreement.

Bellingham Bay was selected in 1996 for a pilot project because it is estimated there are more than 2 million cubic yards of contaminated sediments in the bay.

The pilot project was to ensure that cleanup, source control, habitat restoration and land-use issues were integrated and addressed cooperatively, without litigation that often occurs with current cleanup approaches.

The fifteen federal, state, local, tribal and business organizations involved with the pilot project developed the comprehensive strategy and evaluated it through an environmental impact statement that was completed in October, 2000.

The January 2001 agreement outlines how the group of organizations will work to implement the comprehensive strategy.

"We expect the Bellingham Bay effort to lead the way for cities with working waterfronts that are facing the similar challenge of maintaining water-dependent commerce while cleaning up and safeguarding marine waters," Fitzsimmons said.

A subsidiary agreement, linked to the overall strategy, also was signed by Department of Natural Resources (DNR) and will be signed later in the month by other parties.

It outlines how Georgia-Pacific, the Port of Bellingham, city of Bellingham and DNR will implement actions to clean contaminated sediments in the Bay. The fifteen participants have indicated support for the agreements, but will need to receive final approval from their organizations before signing the document.

For more information, contact Lucy Pebles of Ecology at (425) 649-7272, or Mike Stoner of the Port of Bellingham at (360) 676-2500.

FEMA & Ecology seek to improve flood maps

Winter flooding in Washington is as reliable as the rain. Unfortunately, you can't necessarily rely on the maps used to determine flood boundaries by the National Flood Insurance Program (NFIP).

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs), Floodway Maps, and Flood Hazard Boundary Maps are used in 279 communities in Washington to provide information on flooding risks.

The FIRMs were designed mainly to designate premiums for insurance. The criteria for designating flood-prone areas is limited to flood inundation only, which basically tells you how high floodwaters will rise in certain locations under certain flood conditions.

Hydraulic models, often based on limited data, establish the base flood (100-year) elevations that are portrayed on these maps.

Many of the flood maps are out of date and don't reflect the true risks of flood hazards. For example, up to 30 percent of flood losses in recent years were outside the designated flood zone.

The maps don't cover many areas subject to flood risk, including smaller urban streams, lands at risk from erosion within channel migration zones, and areas subject to groundwater flooding.

The inadequacy of the FIRMs is not just a problem for people filing flood insurance claims. Many local governments use the flood maps for making land-use decisions, such as designating floodplains in critical area ordinances or designating floodways under the Shoreline Management Act.

Updating hazard maps

Washington State recently joined a nationwide effort to update its flood hazard maps. Under the "Cooperating Technical Partners" (CTPs) program, FEMA may provide funds and/or technical assistance to state and local partners for flood mapping. Participating state and local governments develop and maintain their own flood-hazard maps following national standards.

Joining the program starts with signing a "partnership agreement," a broad statement of principle emphasizing the value of the NFIP's three components of flood insurance, floodplain management, and mapping. The agreement recognizes the fundamental importance of flood hazard identification to successfully reduce future flood losses and the partner's commitment to the effort, as well as the partner's in-house capabilities.

Local partners and FEMA then develop "mapping activity agreements" that identify specific tasks and may also transfer certain responsibilities to the partner.

The work addressed by these agreements may be locally funded and/or FEMA funded. The cooperative agreements can be for relatively simple activities, from developing digital community base maps for FEMA's use in preparing Digital Flood Insurance Rate Maps (DFIRMs).

They can also cover more sophisticated activities, such as conducting flood insurance studies or reviewing the technical aspects of those studies and the floodplain mapping, preparation of publication-ready DFIRMs for distribution by FEMA, and risk assessment.

The goal will be for technically competent, motivated communities to assume ownership of their flood-hazard maps, with FEMA available as a technical resource in tailoring a local focus into the national flood insurance program.

A few local jurisdictions are already participating in the program. For example, King County is conducting a detailed hydraulic/hydrologic study of the North Bend area, and Pierce County is revising the 100-year flood boundaries using updated topography. Several other communities in the region have expressed interest in participating in the program.

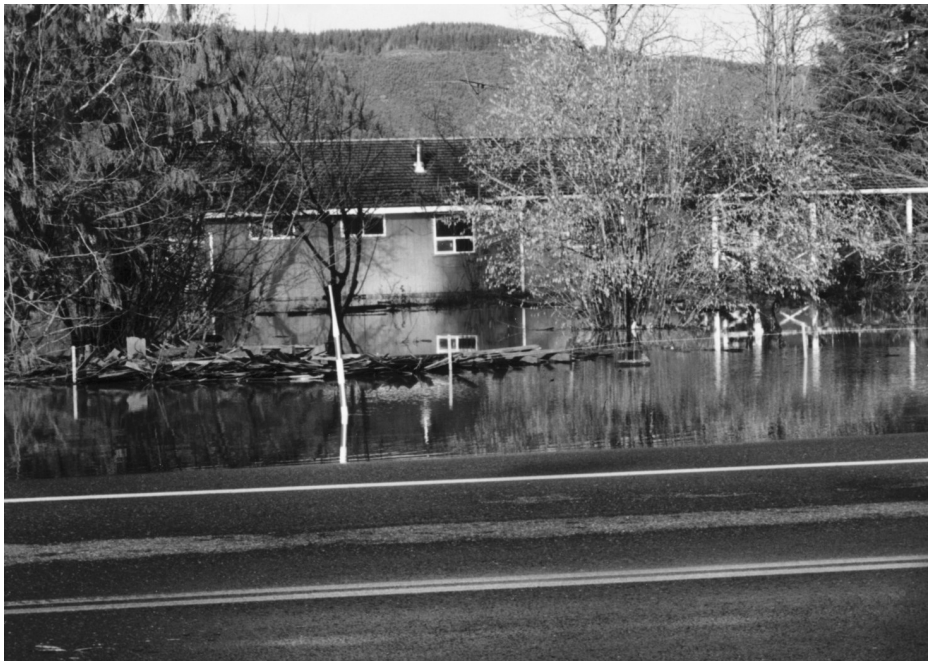
Ecology's Tim D'Acci, Washington's NFIP Coordinator, believes the program is an important step towards an ultimate goal of one coordinated flood map system that can be used for a variety of purposes.

"Ideally, local communities and state and federal agencies will all share the same digital backbone with common flood boundaries that will address the true location of flood hazard areas," said D'Acci.

Looking for partners

Ecology encourages local communities to consider joining with FEMA as a CTP partner. For more information, call Ecology's Tim D'Acci at (360) 407-6796 or the FEMA Regional Office at (425) 487-4678.

For a detailed description of the CTP program, visit FEMA's Web site at www.fema.gov.mit/tsd/CTC_main.htm.



Flood-damaged home in Southwest Washington outside the FEMA-mapped floodplain. FEMA maps often do not include areas subject to flood risk, such as smaller urban streams, lands at risk from erosion within channel migration zones, and areas subject to ground water flooding. Photo: Dan Sokol

Ecology launches new Web site on landslide hazards

On Puget Sound, winter is landslide season. Landslides are common on steep shoreline bluffs, particularly following heavy rains, and can be costly and even deadly for shoreline residents.

Ecology's new *Puget Sound Landslides* Web site contains information about how landslides occur, who to go to for help, how to recognize landslides and how to reduce risks from them. The site is aimed at coastal property owners, real estate agents, shoreline consultants, and local government staff.

Besides useful information and pictures, the site includes the slope stability maps from the Coastal Zone Atlas, the standard reference for mapping landslide hazards in local shoreline master programs and critical areas ordinances.

The site was developed with a grant from the Federal Emergency Management Agency. Visit the site at www.ecy.wa.gov/programs/sea/landslides/

Draft wetland mitigation banking rule expected this spring

Ecology expects to release a draft rule outlining what is required for wetland mitigation banks in early 2001, with public hearings in early spring.

A draft rule was written with help from an advisory team that met monthly from December 1998 through May 2000. Ecology released an "informal" draft for public review in August 2000.

Mitigation banks typically involve consolidating many small wetland mitigation projects into larger, potentially more ecologically valuable sites. The proposed rule will establish a statewide certification program for wetland mitigation banks.

For current information, visit www.ecy.wa.gov/programs/sea/wetmitig/ or contact Ecology's Lauren Driscoll at (360) 407-6861, email ldri461@ecy.wa.gov.

Confluence

con-flu-ence [kon-floo-en(t)s] *n. 1: a flowing together of two or more streams 2: an act or instance of congregating: an assembly: crowd*

Confluence is the quarterly newsletter of the Washington State Department of Ecology. The name symbolizes the flowing together of water quality, water quantity, and shorelands issues into a common forum. The word also refers to a gathering of people, which is what it takes to solve water problems. *Ecology Pub. No. 01-06-011*

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